DOCUMENT RESUME

ED 179 556 TM 009 775

AUTHOR Chissom, Brad S.; McLean, James E.
TITLE Talents Unlimited Program. Technical Report Summarizing Research Findings.
INSTITUTION Mobile County Public Schools, Ala.
PUB DATE Mar 79
NOTE 17p.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Ability; Cognitive Ability; Communication Skills; Creative Ability; Criterion Referenced Tests; Decision Making; *Educational Innovation; Elementary Secondary Education; Planning; Prediction; Productive Thinking; *Program Effectiveness; *Special Programs; *Talented Students; Talent Identification; Test Results; *Validated Programs
IDENTIFIERS Elementary Secondary Education Act Title III; National Diffusion Network Programs; *Project Talents Unlimited

ABSTRACT

Talents Unlimited (TU) is an educational program based in Mobile, Alabama, and developed under an Elementary Secondary Education Act Title III grant. The program was validated nationally over three years and is now part of the National Diffusion Network. Six areas of talent were identified: productive thinking; forecasting; decision making; planning; communication; and academic ability. Changes in students in grades one through six were measured by a series of ten specially developed criterion referenced tests and achievement tests. Programs were also developed and tested, in other school districts, for talented students in elementary and secondary grades. Overall results showed significant differences between the experimental groups involved in the TU program and the control groups. Currently, over 70 groups are involved in TU programs. (MH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED179556

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

TALENTS UNLIMITED PROGRAM

TECHNICAL REPORT SUMMARIZING RESEARCH FINDINGS

By

Brad S. Chissom and James E. McLean

University of Alabama

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Jamie L. McLean

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

TM009 775

TALENTS UNLIMITED PROJECT
Mobile County Public Schools
Mobile, Alabama

March, 1979

EVIDENCE OF THE SUCCESS OF TALENTS UNLIMITED

Introduction and Background

Talents Unlimited (TU) is an innovative educational program developed under an Elementary and Secondary Education Act (ESEA) of 1965, Title III Grant, and is located in Mobile, Alabama. The program was developed and experimentally tested over a three year funding period from June, 1971, through June, 1974.

As a result of the success of the program the project was "validated" nationally and is now a part of the National Diffusion Network. This and other innovative programs are described in Education in Action, 50 Ideas that Work (Park, 1978) and Educational Programs that Work, both published by the United States Office of Education.

Funds for the dissemination of the TU message continued for two years, and were not renewed for the 1976-77 school year. However, funding was secured in 1977-78 and is continuing at the present time.

The theoretical and research background for TU grew out of the work of Dr. Calvin W. Taylor of the University of Utah who has explored the development of creativity and researched the creative process for over 20 years. His Multiple Talent Approach (MTA) to education has been described extensively in his writings, and is summarized, prior to the beginning of the TU project, in an article for a special "creativity" issue of the Journal of Research and Development in Education published in 1971 (Taylor, Lloyd, and Rollins). A companion article in the same issue described project IMPLODE (Stevenson, 1971), a program using the Multiple Talent

Approach to education which was a forerunner of Talents Unlimited.

The final theoretical model developed by the TU staff is a combination of Taylor's "Totem Pole Model" (Taylor, 1968) picturing the Multiple Talent Approach and Guilford's Structure of the Intellect Model (Guilford, 1965), a comprehensive description of intellectual abilities which has enabled researchers to gain insight into the nature of creativity and the creative process. The TU staff was directed by Dr. Carol L. Schlicter for the first three years and is currently headed by Ms. Sara Waldrop.

The TU Model identifies six talent areas, in much the way Taylor did with the Multiple Talent Approach to education and they are: (1) Productive Thinking, (2) Forecasting, (3) Decision Making, (4) Planning, (5) Communication, and (6) Academic. The traditional academic talent is incorporated in the model as a means for helping students gain knowledge in a variety of disciplines, while the other five talents are used as vehicles for assisting students in processing or using the knowledge to create new solutions to problems. Taylor (1968) has said that 90% of the children in school will be above average in at least one of the six talent areas, provided those talents have an opportunity to develop. Talents Unlimited developed a process by which each of these talents can be taught by a classroom teacher in order to provide an area of success for all students. The program is not a specialty program to be used once a year, but is a program that permeates all phases of instruction.

As a part of the development process for TU, procedures for assessing the changes that children exhibit in each of the six talent areas were developed. These measures, entitled collectively The Criterion Referenced Tests (CRT), were used to establish the success or failure of the TU

Project after its third year. The tests were reviewed and revised during the second year of the project (1972-73), and in their present form have been used by many adopters of the TU Program to evaluate their projects. At the present time there are ten (10) tests, one (1) each for the decision-making, forecasting, and planning talents; three (3) for the communication talent; and four (4) for the talent of productive thinking.

These tests form the primary basis for comparing students who participated in the TU Program (experimentals) with students who did not participate (controls). In many of the adoptions of TU other tests have been used on a limited basis, but the Criterion Referenced Tests serve as the common thread running throughout the research. The rest of this paper will describe the results obtained from evaluations of the TU Program.

Evidence of Success

I. End of Second Year Report, 1973

The first source of information documenting the success of the project is from the project report after the second year. The experimental design used enabled the project to be validated after the third year and was sound. Four experimental and four control schools, matched for socioeconomic level and racial composition, were used. Thirty-seven teachers in grades 1-6 participated as "Talents" teachers for the entire three-year period, definitely a positive aspect of the evaluation. Students in the experimental and control schools were pre- and post-tested on the Torrance Tests of Creative Thinking; achievement tests (Clymer Barrett for the first half of grade one and the Stanford Achievement Test for the rest); and the previously described Criterion

Reference Tests. At this stage of the project there were only eight CPTs that had been developed of the final ten.

Analyses comparing the experimental and control groups over the four Torrance subtests show significant differences favoring the experimental group for all subtests. These results are contained in Table 1.

Table 1

Means, Standard Deviations, and t-values on the Torrance Tests of Creativity Comparing Experimental and Control Groups Over Grades 1-6

		Mean	SD	t-value
Experimental	(Fluency)	32.53	7.50	
Control		27.64	7.15	6.19*
Experimental	(Flex)	24.40	4.00	
Control		19.37	5.20	10.27*
Experimental	(Orig.)	53.57	15.88	
Control		34.15	12.98	12.21*
Experimental	(Elab.)	48.55	23.83	
Control		37.55	22.62	4.34*

*p < .05

Results of the comparison between experimental and control groups on the Criterion Referenced Tests for all five talents are contained in Table 2 and summarized in Table 3. A further summary of these data follow:

Grade 1: Significant differences favoring the experimental group on Productive Thinking I & II, Forecasting, and Communication III.

Grade 2: Significant differences favoring the experimental group on Productive Thinking I & II, Forecasting, and Communication I & II.

Grade 3: Significant differences favoring the experimental on Planning and Forecasting. The control group was significantly better on Communication III.

Table 2

Experimental vs. Control t-values[a] for Change Scores by Grade Levels for all Talents

Grade	PLANNING t-value	DECISION MAKING t-value	PRODUCTIVE THINK. I t-value	PRODUCTIVE THINK. II t-value
1	1.11	0.95	2.79*	2.57*
2	1.86	1.87	4.14*	3.86*
3	3.43*	1.47	1.29	1.58
4	5.13*	1.90*	4.00*	5.96*
5	2.59*	0.70	3.56*	3.54*
6	3.07	1.39	1.48	3.42*

Grade	FORECASTING t-value	COMMUNICATION I t-value	COMMUNICATION II t-value	COMMUNICATION III t-value
1	2.73*	0.58	2.15*	-0.17
2	3.42*	3.67*	1.70	2.24*
3	2.82*	1.85	0.27	-1.97*
4	2.00*	4.18*	3.76*	1.98*
5	1.40	0.73	-0.28	0.61
6	1.14	-2.19*	3.71*	-1.51

*p < .05

a A negative t-value indicates control group outperformed experimental group.

Table 3

Summary of t-values on the Criterion Referenced Tests
Comparing the Experimental and Control Groups

Grade	Experimental			Control	
	N	Number* Sig.	Number Non-Sig.	N	Number* Sig.
1	30	4	4	26	0
2	33	5	3	35	0
3	34	2	5	31	1
4	62	8	0	63	0
5	31	3	5	28	0
6	29	3	4	34	1
	249	25	21	217	2

*p < .05

Grade 4: Experimentals were significantly better than the controls on eight talent tests.

Grade 5: Planning and Productive Thinking I & II were the significant talent areas for the experimental group.

Grade 6: Significant experimental results were obtained on the Planning and Productive Thinking subtests, while the control group was significantly better on Communication I.

One of Taylor's hypotheses that 90% of the students in a school are above average in at least one talent was tested and the results are presented in Table 4. The findings show that, although Taylor's hypothesized criterion of 90% was not achieved, a percentage of approximately 85% at each grade level is remarkably close. Results of the achievement test comparisons are summarized and compared to the third year achievement test outcomes in Table 7.

Table 4

Percentage of Students Ranking Above Average in at Least One of the Five Talents by Grade Level Across Four Project Schools

Grade 1	(8 classes)	84.7%
Grade 2	(7 classes)	86.6%
Grade 3	(7 classes)	86.8%
Grade 4	(classes)	86.1%
Grade 5	(7 classes)	83.6%
Grade 6	(1 class)	85.2%

II. End of Third Year Report, 1974

Only a single source of comparative information on the talents between experimental and control groups was gathered at the end of year three since the Torrance Tests were not given. The Criterion Referenced Tests were revised and now constituted ten subtests with the productive thinking tests undergoing most of the revision. The productive thinking tasks were enlarged from two subtests to four which were entitled flexibility/imagination, flexibility/problem solving, originality/imagination, and originality/problem solving. Results of the comparisons between experimental and controls in grades 2-5 at the end of year three are summarized in Table 5. A summary of these data indicates that talent students continued to improve their performance over the control group, and the major differences are:

Grades two and three showed a significant difference on all ten talent tests.

Grade four showed a significant difference on seven of the ten talent tests.

Grade five showed a significant difference on five of the ten talent tests with the other five being non-significant.

Table 5

Summary of t-values on the Criterion Referenced Tests
Comparing the Experimental and Control Groups

Grade	Experimental Number* Sig.	Number Non-Sig.	Control Number* Sig.
2	10	0	0
3	10	0	0
4	7	3	0
5	5	5	0
Total	32	8	0

*p < .05

No differences favored the control group at any grade level. Compared to 1973, the results are:

Table 6

Comparison of CRT Results for all Talents
at all Grade Levels, End of Second and Third Years

	1973	1974
Significant Experimental*	25	32
Non-Significant	21	8
Significant Control*	2	0

*p < .05

Table 7 reveals that the experimental group (talent-trained students) performed significantly better than the control group on 14 subtests of the Stanford Achievement Test; 18 were not significant, and the control group performed significantly better on 3 tests. This reveals a highly significant achievement trend in the direction of the talent group. A comparison with the achievement results at the end of the second year,

in 1973, are as follows:

Table 7

Comparison of Achievement Test Results for all Tests at all Grade Levels, End of Second and Third Years

	1973	1974
Significant Experimental*	6	14
Non-Significant	11	18
Significant Control*	18	3

*$p < .05$

III. Replication Study, 1977-78

Only one talent, productive thinking, was used as a criterion measure with its two subtests of flexibility and originality. A comparison was made, by grade, between subjects in the 1977-78 Talent Students with roughly comparable schools from the 1972-73 testing on flexibility and originality scores. Table 8 is a summary of the results.

Some trends may be noted in the data shown in Table 8. In general, there is fairly clear evidence of consistent superior performance of the 1977-78 experimental group over the 1972-73 control group on the flexibility score. The comparison is not so clearcut for the originality scores. In part, there is a noticeable tendency for the control group to outperform the experimental group even though in most cases the differences were not statistically significant. During the 1977-78 year there was less emphasis placed on originality in the talent program which may have accounted for these results.

Table 8

Replication Study
Summary of Experimental and Control Data
for Productive Thinking Talent
Grades 1-6

		Flexibility			Originality		
Grade		Exp.	Cont.	t-value	Exp.	Cont.	t-value
1	Mean	16.8	7.8		30.4	26.9	
	SD	5.2	4.1	+7.59*	14.0	14.7	+1.15
	N	46	26		46	26	
2	Mean	19.3	10.4		34.1	37.3	
	SD	5.9	6.7	+4.34*	12.1	24.9	- .46
	N	14	35		14	35	
3	Mean	14.7	12.6		26.0	44.9	
	SD	3.3	4.7	+1.31	8.7	16.7	-1.61
	N	10	31		10	31	
4	Mean	16.5	10.9		29.7	36.5	
	SD	3.9	8.6	+2.01*	9.9	18.7	-1.11
	N	10	50		10	50	
5	Mean	15.9	10.6		34.3	38.6	
	SD	5.8	5.3	+2.65	9.6	19.6	- .65
	N	10	28		10	28	
6	Mean	12.8	12.2		24.8	36.9	
	SD	4.4	11.5	+ .29	11.7	19.2	-3.21*
	N	37	32		37	32	

*Experimental and control groups significantly different at or below the .05 level.
A negative t-value indicates control group outperformed the experimental group.

IV. Arkadelphia, Arkansas Study, 1977-78

An ESEA Title IV-C Project was implemented by the Arkadelphia School District No. 1 which adopted the Talents Unlimited procedures for a group of gifted and talented secondary students. There were 56 students in grades 8-12, and they were pre- and post-tested using the Criterion Referenced Tests developed by Talents Unlimited. Results of the analysis of their data are contained in Table 9.

Table 9

Summary of the Tests of Significance
Arkadelphia, Arkansas Study

Skill Area	Test of Significance	
	t-value	Chi-square
Productive Thinking:		
Imaginary	11.79*	
Problem Solving	4.45*	
Forecasting	6.01*	
Communication	11.32*	
Planning		39.84*
Decision Making		93.64*

*p < .01

The results were summarized as follows, according to the final report: "The objective was achieved, as statistically significant gains were found on all six tests" (Arkadelphia School District 1). Table 9 presents a summary of the tests of significance used to evaluate this objective. Their objective of achieving significant changes from pre- to post-test on the five talents was achieved.

V. Milaca, Minnesota,1976 (Reynolds, 1978)

A Talents Unlimited Program was introduced in the school system in the 1974-75 school year. After two years, results showed that "over 90% of the students in grades K-8 that participated in the project found that they were above average in at least one multiple talent" as measured by the Criterion Referenced Tests created by Talents Unlimited.

VI. Livonia, Michigan, 1976 (Reynolds, 1978)

Two talent areas, productive thinking and decision making, were selected for fourth- and fifth-grade students to participate in the Talents Unlimited Program. Experimental and control groups were selected for each grade level with 40 students in each group, making a total of 160 subjects. Pre- to post-test differences on the Criterion Referenced Test subtests of productive thinking and decision making were tested. Gains for the experimental students were significantly greater than those for the controls at the .01 level on both talents.

VII. Mason, Michigan, 1976 (Reynolds, 1978)

One class at each of the second, third, and fourth-grade levels was targeted for TU teaching, with a control class selected for each grade. Pre- and post-tests with the Criterion Referenced Tests were given in September, 1975, and May, 1976, respectively. "The experimental classes outperformed the control classes and the experimental groups in Alaiedon Elementary School outperformed experimental groups in Mobile."

Summary of Results and Projections for the Future

The overall results of the studies reported in this paper favor the Talents Unlimited Program. All of the studies cited show significant differences between the experimental groups that used the TU Program

and control groups who did not.

At the present time several sites that have adopted the TU Program are gathering data and more results will be forthcoming. The Criterion Referenced Tests developed by TU make an excellent measure for comparison and add continuity to research efforts directed at evaluating the TU Program. Some uniformity of the experimental designs and tests used in the research studies should soon result in a body of information that will provide definite answers to the questions: Does the Talents Unlimited Program work? and for what groups does it work?

Currently there are approximately 70 adopters of the TU Program throughout the United States. Requests for information, on-site visits, and consultant services continue to pour in to the Mobile office. Subjects include ages from pre-school through adulthood providing an ever expanding audience for the program. Projections of the possibilities for Talents Unlimited seem to be, indeed, "unlimited."

REFERENCES

Arkadelphia School District No. 1, Experienced Based Individualized Investigation Program for Gifted and Talented Secondary Students, ESEA, Title IV-C, Part C Evaluation Report, Arkadelphia, Arkansas, 1977-78.

Board of Commissioners, Mobile County Public Schools, Talents Unlimited, End of Second Year Report, ESEA, Title III, Mobile, Alabama, July 15, 1977.

Board of Commissioners, Mobile County Public Schools, Talents Unlimited, Interim Evaluation Report Year Three, ESEA, Title III, Mobile, Alabama, January 18, 1974.

Board of Commissioners, Mobile County Public Schools, Talents Unlimited, End of Third Year Report, ESEA, Title III, Mobile, Alabama, June 4, 1974.

Board of Commissioners, Mobile County Public Schools, Talents Unlimited, Final Report, ESEA, Title III-Section 306, Mobile, Alabama, June 30, 1976.

Board of Commissioners, Mobile County Public Schools, Talents Unlimited, End of Third Year Report, GEPA, Section 422 (a), Mobile, Alabama, May, 1978.

Bobowshi, Rita C. The Care and Feeding of Talents, American Education, 1978, 14, 43-48.

Guilford, J. P. Intelligence: 1965 Model, American Psychologist, 1966, 21, 20-26.

Educational Programs that Work, 5th Edition, Washington, D. C.: United States Office of Education, 1978-10-7.

Park, Jeanne S. (Editor) Talents Unlimited, Education in Action, 50 Ideas that Work, Washington, D.C.: U. S. Department of Health, Education and Welfare, 1978, 107-108.

Reynolds, Loran R. A History of the Multiple Talent Approach to Education, Unpublished doctoral dissertation, Brigham Young University, April, 1978.

Stevenson, Gilbert M. IMPLODE, Journal of Research and Development in Education, 1971, 4, 51-56.

Taylor, Calvin W., Be Talent Developers as Well as Knowledge Dispensers," Today's Education, December, 1968, 67-69.

Taylor, Calvin W., Lloyd, Beverly, and Rollins, Judy. Developing Multiple Talents in Classrooms Through the Implementation of Research, Journal of Research and Development in Education, 1971, 4, 42-50.